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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,682	09/15/2003	Michael Scott Burnett	C03-05	9785

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EXAMINER	
HUNTER, ALVIN A	

ART UNIT	PAPER NUMBER
3711	

DATE MAILED: 05/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

S 17

Office Action Summary	Application No.	Applicant(s)	
	10/662,682	BURNETT ET AL.	
	Examiner	Art Unit	
	Alvin A. Hunter	3711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7-21,24-39 and 43-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-21,24-39 and 43-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The indicated allowability of claims 6 and 23 are withdrawn in view of the newly discovered reference(s) to Chen (USPN 5494281) and Aizawa et al. (USPN 5697854). Rejections based on the newly cited reference(s) follow.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not contain support that the second material can be a titanium alloy and set forth in claims 11 and 47.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11 and 47 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the second portion to be formed of aluminum, graphite, magnesium, and a thermoplastic, does not reasonably provide enablement for the second portion to be formed of titanium alloy. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Page 5, lines 6 through 15 state that the second material must have a density within the range of about 0.1g/cc to 4.0g/cc, in which titanium alloy does not have a density within the above

range. If supported by the above range, applicant is urged to submit evidence showing titanium within the above range.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

See above regarding 112, 1st paragraph.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by McKeighen (USPN 5429365).

Regarding claim 34, McKeighen discloses a golf club head having a first body portion and a second body portion, wherein the first body portion including a front face having a variable face thickness and a second body having a low density crown section, wherein the club head inherently has a spin rate to launch angle ratio of less than about 275 at a geometric face center under robot test conditions. It is believed that the ratio is inherent because McKeighen teaches the same structure as that claimed by the applicant. McKeighen is also geared to raising the launch angle and lowering the center

of gravity of the club head. With this being said, the spin rate would be dependent on the type of ball used in which not every ball performs in the same manner. The above ratio is a limitation made to merely test results in which the applicant is very much aware that the office does not have the ability to test.

Regarding claim 35, McKeighen inherently discloses the spin rate to launch angle ratio being less than 250 for the reasons set forth regarding claim 34.

Regarding claim 36, McKeighen inherently discloses the sweet spot approximately at the geometric face center or above for the reasons set forth regarding claim 34.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 7-10, 12-17, 19-20, 34-39, 43-46, 48-53, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (USPN 5494281) in view of Aizawa et al. (USPN 5697854) and Molitor et al. (USPN 4762322).

Regarding claim 1 and 2, Chen discloses a club head comprising a first body portion and a second body portion wherein the first body portion includes a front face having a geometric face center and a point of maximum COR and the second body portion forms a crown and skirt section. The first body is composed of a first material having a density and the second material is composed of a second material having a

density less than that of the first material. Chen discloses a sole plate in which may be weighted, but does not disclose the center of gravity being at least 5mm lower than the face's geometric center. Aizawa et al. discloses a club head having a weighted sole plate for lowering the center of gravity of the club head. Molitor et al. teaches a club head having a center of gravity no more than 0.7 inch above the sole by weighting the lower portion of the club head (See Entire Document). Therefore, it is submitted that the combination of Chen and Aizawa et al. meets the center of gravity requirement by that of the applicant and one having ordinary skill in the art would have found it obvious to attach a weighted sole plate to the bottom of the club head of Chen in order to lower the center of gravity of the club head.

Regarding claim 3, the combination of Chen, Aizawa et al., and Molitor et al. meets the limitations of claims based on the reason set forth above.

Regarding claim 7, Chen discloses the second body portion inherently has a density of between about 0.1 to 4.0 g/cc that magnesium alloy has a density of anywhere from 1.74 to 1.87 g/cc.

Regarding claim 8, Chen discloses the first material being a titanium alloy and the second material being a metal.

Regarding claim 9, Chen discloses the second material being magnesium.

Regarding claim 10, Chen discloses the second material being a metal. Chen notes that stainless steel is a common metal used as a front face in the art but prefers the use of a lighter material. Though Chen does not use stainless steel as the front

face, one having ordinary skill in the art would have found it obvious to do so being that stainless steel is commonly known within the art for such.

Regarding claim 12, Chen discloses the second body being casted and formed.

Regarding claim 13-15, Claims are directed to a process to produce the product. It is submitted that Chen, Aizawa et al., and Molitor et al. meets the limitations of the claim being that the final product is the same.

Regarding claim 16, the combination of Chen, Aizawa et al., and Molitor et al. meets the limitations of claims based on the reason set forth above.

Regarding claim 17, the combinations of Chen, Aizawa et al., and Molitor et al., inherently teaches the point of COR located approximate to a vertical plane including the geometric center (language for claim 53 is interpreted to be the entire front face).

Regarding claim 19, Chen discloses that weight being integral with the sole at a distance away from the face.

Regarding claim 20, The combination of Chen and Aizawa et al. teaches the weight portion between 15% to 25% of the total club head weight being that the materials set forth in Aizawa et al. meet the density range of that disclosed by the applicant in the paragraph bridging pages 5 and 6 of the applicant's specification.

Regarding claim 34 and 35, Chen discloses a club head comprising a first body portion and a second body portion wherein the first body portion includes a front face having a geometric face center and a point of maximum COR and the second body portion forms a crown and skirt section. The first body is composed of a first material having a density and the second material is composed of a second material having a

density less than that of the first material. Chen discloses a sole plate in which may be weighted, but does not disclose the center of gravity being at least 5mm lower than the face's geometric center. Aizawa et al. discloses a club head having a weighted sole plate for lowering the center of gravity of the club head. Molitor et al. teaches a club head having a center of gravity no more than 0.7 inch above the sole by weighting the lower portion of the club head (See Entire Document). Therefore, it is submitted that the combination of Chen and Aizawa et al. meets the center of gravity and spin rate to launch angle ratio requirements by that of the applicant and one having ordinary skill in the art would have found it obvious to attach a weighted sole plate to the bottom of the club head of Chen in order to lower the center of gravity of the club head.

Regarding claim 36, Chen discloses the sweet spot at the geometric face center due to the fact that the sweet spot is generally known within the art to be located at the center of the face.

Regarding claims 37-39, Chen discloses a club head comprising a first body portion and a second body portion wherein the first body portion includes a front face having a geometric face center and a point of maximum COR and the second body portion forms a crown and skirt section. The first body is composed of a first material having a density and the second material is composed of a second material having a density less than that of the first material. A hosel member is also extending above the crown section. Chen notes that hosel is made of a material different from that of the first body. One having ordinary skill in the art would have sought to use one of the materials already disclosed by Chen to form the hosel wherein the materials used for

the first portion would be the same as that of the hosel and, therefore, making the selection of material obvious. Chen discloses a sole plate in which may be weighted, but does not disclose the center of gravity being at least 5mm lower than the face's geometric center. Aizawa et al. discloses a club head having a weighted sole plate for lowering the center of gravity of the club head. Molitor et al. teaches a club head having a center of gravity no more than 0.7 inch above the sole by weighting the lower portion of the club head (See Entire Document). Therefore, it is submitted that the combination of Chen and Aizawa et al. meets the center of gravity requirement by that of the applicant and one having ordinary skill in the art would have found it obvious to attach a weighted sole plate to the bottom of the club head of Chen in order to lower the center of gravity of the club head.

Regarding claim 43, Chen discloses the second body portion inherently has a density of between about 0.1 to 4.0 g/cc that magnesium alloy has a density of anywhere from 1.74 to 1.87 g/cc.

Regarding claim 44, Chen discloses the first material being a titanium alloy and the second material being a metal.

Regarding claim 45, the limitation is met as set forth above regarding claim 43.

Regarding claim 46, Chen discloses the second material being a metal. Chen notes that stainless steel is a common metal used as a front face in the art but prefers the use of a lighter material. Though Chen does not use stainless steel as the front face, one having ordinary skill in the art would have found it obvious to do so being that stainless steel is commonly known within the art for such. Furthermore, applicant does

not disclose why stainless steel is critical to attain the invention. It apparent that the invention attains the same result when using titanium alloy; therefore, one having ordinary skill in the art would have found such material selection to be an obvious matter of design choice.

Regarding claim 48, Chen discloses the second body being casted and formed.

Regarding claims 49-51, Claims are directed to a process to produce the product.

Regarding claim 52, the combination of Chen, Aizawa et al., and Molitor et al. meets the limitations of claims based on the reason set forth above

Regarding claim 53, the combinations of Chen, Aizawa et al., and Molitor et al., inherently teaches the point of COR located approximate to a vertical plane including the geometric center (language for claim 53 is interpreted to be the entire front face).

Regarding claim 55, Chen discloses that weight being integral with the sole at a distance away from the face.

Regarding claim 56, the combination of Chen and Aizawa et al. teaches the weight portion between 15% to 25% of the total club head weight being that the materials set forth in Aizawa et al. meet the density range of that disclosed by the applicant in the paragraph bridging pages 5 and 6 of the applicant's specification.

Claims 18, 21, 24-33, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (USPN 5494281) in view of Aizawa et al. (USPN 5697854), Molitor et al. (USPN 4762322) and McKeighen (USPN 5429365).

Regarding claim 21, Chen discloses a club head comprising a first body portion and a second body portion wherein the first body portion includes a front face having a geometric face center and a point of maximum COR and the second body portion forms a crown and skirt section. The first body is composed of a first material having a density and the second material is composed of a second material having a density less than that of the first material. Chen discloses a sole plate in which may be weighted, but does not disclose the center of gravity being at least 5mm lower than the face's geometric center or the thickness of the front face. Aizawa et al. discloses a club head having a weighted sole plate for lowering the center of gravity of the club head. Molitor et al. teaches a club head having a center of gravity no more than 0.7 inch above the sole by weighting the lower portion of the club head (See Entire Document). Therefore, it is submitted that the combination of Chen and Aizawa et al. meets the center of gravity requirement by that of the applicant and one having ordinary skill in the art would have found it obvious to attach a weighted sole plate to the bottom of the club head of Chen in order to lower the center of gravity of the club head. Mckeighen discloses a club head having a first and second body having a front face gradually increasing in thickness from the crown to the sole section (See Figure 9 and the paragraph bridging columns 5 and 6). One having ordinary skill in the art would have found it obvious to have the front face thicker at the sole, as taught by McKeighen, in order to further lower the center of gravity of the club head and to improve the sound of the club head.

Regarding claim 24, Chen discloses the second body portion inherently has a density of between about 0.1 to 4.0 g/cc that magnesium alloy has a density of anywhere from 1.74 to 1.87 g/cc.

Regarding claim 25, Chen discloses the second body portion being magnesium alloy and the first material being a titanium alloy.

Regarding claim 26, Chen discloses the first material being titanium alloy but does not teach the second material made of a graphite or aluminum. McKeighen discloses a club head having a first and second portion wherein the second portion is made of graphite or aluminum. McKeighen notes that the selection of material allows for the weight of the club head to be lowered and moved into the toe, heel, and sole (See Paragraph bridging Columns 4 and 5). One having ordinary skill in the art would have found it obvious to have the second portion made of graphite of aluminum, as taught by McKeighen, in order to lower the weight of the club head.

Regarding claim 27, Chen discloses the second body being casted and formed.

Regarding claims 28 and 29, the limitations claimed by the applicant are directed to a product by process; therefore, it is submitted that the combinations of Chen, Aizawa et al., Molitor et al., and McKeighen meets theses limitation because the final product is the same.

Regarding claim 30, the combinations of Chen, Aizawa et al., Molitor et al., and McKeighen inherently teaches the point of COR located approximate to a vertical plane including the geometric center (language for claim 30 is interpreted to be the entire front face).

Regarding claim 31, the combination of Chen, Aizawa et al., Molitor et al., and McKeighen inherently teaches the maximum coefficient being greater than 0.80 because it meets the structural limitations of the invention.

Regarding claim 32, Chen discloses that weight being integral with the sole at a distance away from the face.

Regarding claim 33, Applicant does not disclose why it is critical for only tungsten and molybdenium to be used as the weight portion. Tungsten is a material commonly known within the art as being used for a weighting element. Furthermore, applicant discloses that the weight portion only need to meet the required density range set forth in the paragraph bridging pages 5 and 6 of the applicant's specification wherein Aizawa et al. meets. One having ordinary skill in the art would have found the material for the weight portion to be an obvious matter of design and also would have found it obvious to use any type of material for the weight portion so long as it lowers the center of gravity of the club head and meets the range of that disclosed by the applicant.

Allowable Subject Matter

Claims 11 and 47 may be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1-56 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that McKeighen does not teach the launch angle to spin rate ratio. The examiner disagrees. Clearly the record does not provide such proof that the club head of McKeighen does not have this ratio. The applicant has not set forth any evidence as to why McKeighen does not have this ratio, only gives a broad statement in regards to the club heads made by the company. If it is known that the club head does not have this ratio, applicant is urged to provide factual proof of such. The test data from the specification in regards to similar type of club require more clarity, what type of shafts where attached to the club heads? Not every shaft has the same flexure. Applicant claims the head has advantages but the type of shaft is critical in determining if the test results are dependent on the club head alone.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin A. Hunter whose telephone number is (571) 272-4411. The examiner can normally be reached on Monday through Friday from 7:30AM to 4:00PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Vidovich, can be reached on 571-272-4415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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